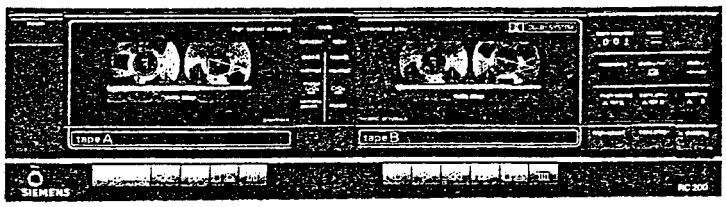
SIEMENS



Doppel-Cassettendeck RC200
System RS200R4

Vorabkundendienstschrift
Pre-Service manual

ALLGEMEINE TECHN. ANGABEN GENERAL TECHNICAL DATA

NETZTEIL

Spannungsversorgung: 220V, 50Hz
Max. Leistungsaufnahme: 10W
Sicherung: 1x250V/180mA träge

POWER SUPPLY UNIT

Power supply: 220V, 50Hz
Power consumption: 10W
Fuse: 1x250V/180mA/slow-blowing

Recorder

Bandgeschwindigkeit: 4,75cm/sec
Gleichlaufschwankungen: < ± 0,25 %
Übertragungsbereich (A/W): (max.)
Fe_2O_3 = 30... 16000Hz
CrO_2 = 40... 18000Hz
Metall = 30... 18000Hz
Geräschspannungsabstand:
>60db mit Dolby
>50db ohne Dolby
Übersprechdämpfung: >60db
Gesamtklirrgrad: < 3 %

Recorder

Tape speed: 4.75 cm/sec
Wow and flutter: < ± 0.25 %
Frequency response: (max.)
Fe_2O_3 = 30... 16000Hz
CrO_2 = 40... 18000Hz
Metal = 30... 18000Hz
S/N ratio:
>60db with Dolby
>50db without Dolby
Crosstalk: >60db
Total harmonic distortion: <3%

Anschlüsse

Buchse	Eing./ Ausg./ Typ	Pegel	Impedanz
Mikrofon	Φ6,3	3mV	56kΩ
Tape in	Chinch	450mV	47kΩ
Tape out	Chinch	540mV	

Connections

Socket	Inp./ Outp./ Type	Level	Impedance
Mic	Φ6.3	3mV	56kΩ
Tape in	chinch	450mV	47kΩ
Tape out	chinch	540mV	

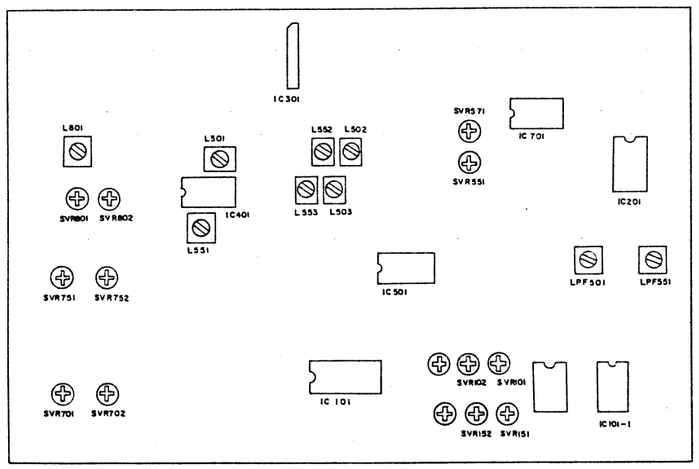
Ausgabe/Issue 927
Ident-Nr/Order-no. 535296

Recordereinstellungen RC200

Schritt	Funktion	Vorbereitung	Signaleingang	Einstell-element	Meßwert
1.	Azimut-Kopfeinstellungen an beiden Recordern	Voltmeter und Oszilloskop an die linke NF-Ausgangsbuchse und die rechte NF-Ausgangsbuchse anschließen. Dolbyfunktion ausschalten. 12,5 kHz Azimut-Testcassette (Bsp. MTT-114NA) verwenden. Wiedergabe	–	Azimut-schrauben in den beiden Recordern	Max. 12,5kHz-Pegel und gleiche Phasenlagen
2	Wiedergabeverstärkung.	Voltmeter und Oszilloskop an die linke und rechte NF-Ausgangsbuchse anschließen. Die Dolbyfunktion ausschalten. Testcassette MTT150 verwenden			
	Recorder A	Linker Kanal Rechter Kanal	–	SVR102 SVR152	540 mV 540 mV
	Recorder B	Linker Kanal Rechter Kanal		SVR101 SVR151	540 mV 540 mV
3	Aufnahmeverstärkung (Recorder B)	Normalkontakt geöffnet und CrO_2/Metall-kontakt geöffnet. Die Dolbyfunktion ausschalten. Die Spannungsversorgung zum Löschoszillator (vor der Spule L802 auf der Recorderplatine) unterbrechen. An die NF-Eingangsbuchsen einen NF-Generator anschließen und 400Hz, 450mV einspeisen.			
	Linker Kanal	Voltmeter und Oszilloskop an R117/x und Masse anschließen. x AIW-Kopf	400Hz, 450mV	SVR501	6,2 mV
	Rechter Kanal	Voltmeter und Oszilloskop an R167/x und Masse anschließen. x AIW-Kopf	400Hz, 450mV	SVR551	6,2 mV
4	Minimierung von Löschfrequenzstörungen am Dolby-IC, IC501 = LB1213	Auf Aufnahme stellen. Die Dolby-Funktion auf aus stellen. Wie bei Schritt 3 die Spannungsversorgung zum Löschoszillator unterbrechen. NF-Generator an die NF-Eingangsbuchsen anschließen.			
	Linker Kanal	Voltmeter und Oszilloskop an R117 und Masse anschließen. Normale Bandgeschwindigkeit (bei High speed)	14,5kHz/25,3mV 24kHz/25,3mV	L502 (L552)	max 14,5kHz-Pegel max 24 kHz-Pegel
	Rechter Kanal	Voltmeter und Oszilloskop an R167 und Masse anschließen. Normale Bandgeschwindigkeit (bei High speed)	14,5kHz/25,3mV 24kHz/25,3mV	L503 (L553)	max. 14,5kHz-Pegel max. 24 kHz-Pegel
5	Fallen	Auf Aufnahme stellen. Die Dolbyfunktion auf aus stellen. Normalband einstellen.			
	Linker Kanal Rechter Kanal	Voltmeter und Oszilloskop an TP5/Masse anschl. Voltmeter u. Oszilloskop an TP6/Masse anschl.	–	L501 L551	min. Pegel min. Pegel

Recordereinstellungen RC200

Schritt	Funktion	Vorbereitung	Signaleingang	Einstell-element	Meßwert
6	Löschfrequenz	Auf Aufnahme stellen. Normalband einstellen. Frequenzzähler an R801 und Masse anschließen.	–	L801	105 kHz
7	Vormagnetisierung	Auf Aufnahme stellen. Die Dolby-Funktion ausschalten. Bandsorte auf Metall stellen.			
	Linker Kanal	Voltmeter und Oszilloskop an R117 und Masse anschließen.	-	SVR801	96mV
	Rechter Kanal	Voltmeter und Oszilloskop an R167 und Masse anschließen.	-	SVR802	96mV
		(CrO_2 = 68mV / Normal = 46mV)			



SVR 101 : DECK-B L-CH OUT PUT LEVEL
SVR 151 : DECK-B R-CH OUT PUT LEVEL

SVR 102 : DECK-A L-CH OUT PUT LEVEL
SVR 152 : DECK-A R-CH OUT PUT LEVEL

SVR 501 : L-CH SIGNAL CURRENT
SVR 551 : R-CH SIGNAL CURRENT

SVR 801 : L-CH BIAS CURRENT
SVR 851 : R-CH BIAS CURRENT

SVR 701 : DECK-A NORMAL SPEED
SVR 702 : DECK-A HIGH SPEED

SVR 751 : DECK-B NORMAL SPEED
SVR 752 : DECK-B HIGH SPEED

L 501 : L-CH TRAP COIL
L 551 : R-CH TRAP COIL

L 502 : L-CH SPEED PEAKING COIL
L 552 : L-CH SPEED PEAKING COIL

L 503 : R-CH SPEED PEAKING COIL
L 553 : R-CH SPEED PEAKING COIL

L 801 : BIAS OSC COIL (105KHZ)

LPF 501 : L-CH LOW PASS FILTER
LPF 551 : R-CH LOW PASS FILTER

SPECIFICATION OF ADJUSTMENT

PLAY-BACK

(1) MAGNETIC HEAD ADJUSTMENT

1. CONNECT 2-CH VTVM AND OSCILLOSCOPE TO OUTPUT L AND R.
2. SET TO PLAY AND DOLBY SWITCH TO "OFF" POSITION.
3. PLAY 12.5KHz AZIMUTH TEST TAPE. (MTT-114NA)
4. USING THE ADJUSTMENT SCREW TO THE KEFT OF THE MAGNETIC HEAD, ADJUST FOR MAXIMUM VOLTAGE AND SAME PHASE.
5. AFTER ALIGNMENT, LOCK THE ADJUSTING SCREW IN POSITION USING LOCKING COMPOUND.

(2) PLAYBACK LEVEL ADJUSTMENT

PLAY BACK LEVEL MEANS OUTPUT LEVEL OF DOLBY IC WHEN PLAY DOLBY-LEVEL SET TAPE (MTT-150-200nWb/m)

A. DECK

THE ADJUSTMENTS ARE LOCATED ON THE TAPE CIRCUIT BOARD AND EACH CHANEL MUST BE PERFORM THE OUTPUT LEVEL ADJUSTMENT AS FOLLOWS.

1. SET TO PLAY AND DOLBY SWITCH TO "OFF" POSITION.
2. CONNECT A VTVM AND AN OSCILLOSCOPE TO TAPE OUTPUT JACK.
3. PLAY DOLBY LEVEL SET TAPE (MTT-150).
4. ADJUST THE LEVEL TO 540mV ± 0.25dB, USING SVR 102 (R-CH152) BUT WHEN ADJUSTMENTS
5. REPEAT ABOVE PROCEDURE FOR THE OTHER CHANNEL.

B. DECK

THE ADJUSTMENTS ARE LOCATED ON THE TAPE CIRCUIT BOARD AND EACH CHANEL MUST BE PERFORM THE OUTPUT LEVEL ADJUSTMENT AS FOLLOWS.

1. SET TO PLAY AND DOLBY SWITCH TO "OFF" POSITION.
2. CONNECT A VTVM AND AN OSCILLOSCOPE TO TAPE OUTPUT JACK.
3. PLAY DOLBY LEVEL SET TAPE (MTT-150).
4. ADJUST THE LEVEL TO 540mV ± 0.25dB, USING SVR 101 (R-CH SVR 151).
5. REPEAT ABOVE PROCEDURE FOR THE OTHER CHANNEL.

REC-PLAY

(1) RECORDING SIGNAL CURRENT ADJUSTMENT

1. SET TO RECORD, Nor/CrO_2/METAL SWITCH TO "OFF", AND DOLBY SWITCH TO "OFF" POSITION.
2. DISCONNECT THE +B LINE FROM OSCILLATOR SO THAT IT CAN NOT OSCILLATE WHILE RECORDING (IT CAN BE DONE EASILY BY TAKING LEAD FASTEN OF +B LINE OFF)
3. CONNECT THE VTVM AND THE OSCILLOSCOPE BETWEEN R108 (R-CH R158) AND GROUND.
4. SUPPLY DOLBY-LEVEL INPUT SIGNAL OF 400Hz 450mV.
5. ADJUST SVR 501 (R-CH 551) UNTIL VTVM INDICATES 6.2mV OF READING.
7. REPEAT ABOVE PROCEDURE FOR THE OTHER CHANNEL.

(2) PEAKING COIL ADJUSTMENT NOR SPEED (HIGH SPEED)

1. SET TO RECORD AND DOLBY SWITCH TO "OFF" POSITION.
2. DISCONNECT THE +B LINE FROM OSCILLATION SO THAT IT CAN NOT OSCILLATE WHILE RECORDING (IT CAN BE DONE EASILY BY TAKING LEAD FASTEN OF +B LINE).
3. CONNECT THE VTVM AND THE OSCILLOSCOPE BETWEEN R117 AND GROUND.
4. SUPPLY 450mV SIGNAL OF 1KHz THROUGH INPUT AND ADJUST RECORD LEVEL CONTROL FOR VU METER INDICATE –25dB.
5. CHANGE SIGNAL FROM 1KHz TO 14.5KHz (24KHz).
6. ADJUST L502 (L552) FOR VTVM INDICATE MAXIMUM LEVEL AT 14.5KHz. (24KHz).
7. REPEAT ABOVE PROCEDURE FOR OTHER CHANEL.
8. HIGH SPEED PEAKING ADJUSTMENT AND HIGH SPEED SWITCH TO "ON" POSITION.

(3) BIAS TRAP COIL ADJUSTMENT

1. SET TO RECORD, DOLBY SWITCH TO "OFF" POSITION AND Nor/CrO_2/METAL FOR "NORMAL" POSITION.
2. CONNECT THE VTVM AND OSICLLOSCOPE BETWEEN TP 5 (R-CH TP 6) AND GROUND.
3. ADJUST L501 (R-CH L551) FOR VTVM INDICATE MINIMUM LEVEL.
4. REPEAT ABOVE PROCEDURE FOR OTHER CHANEL.

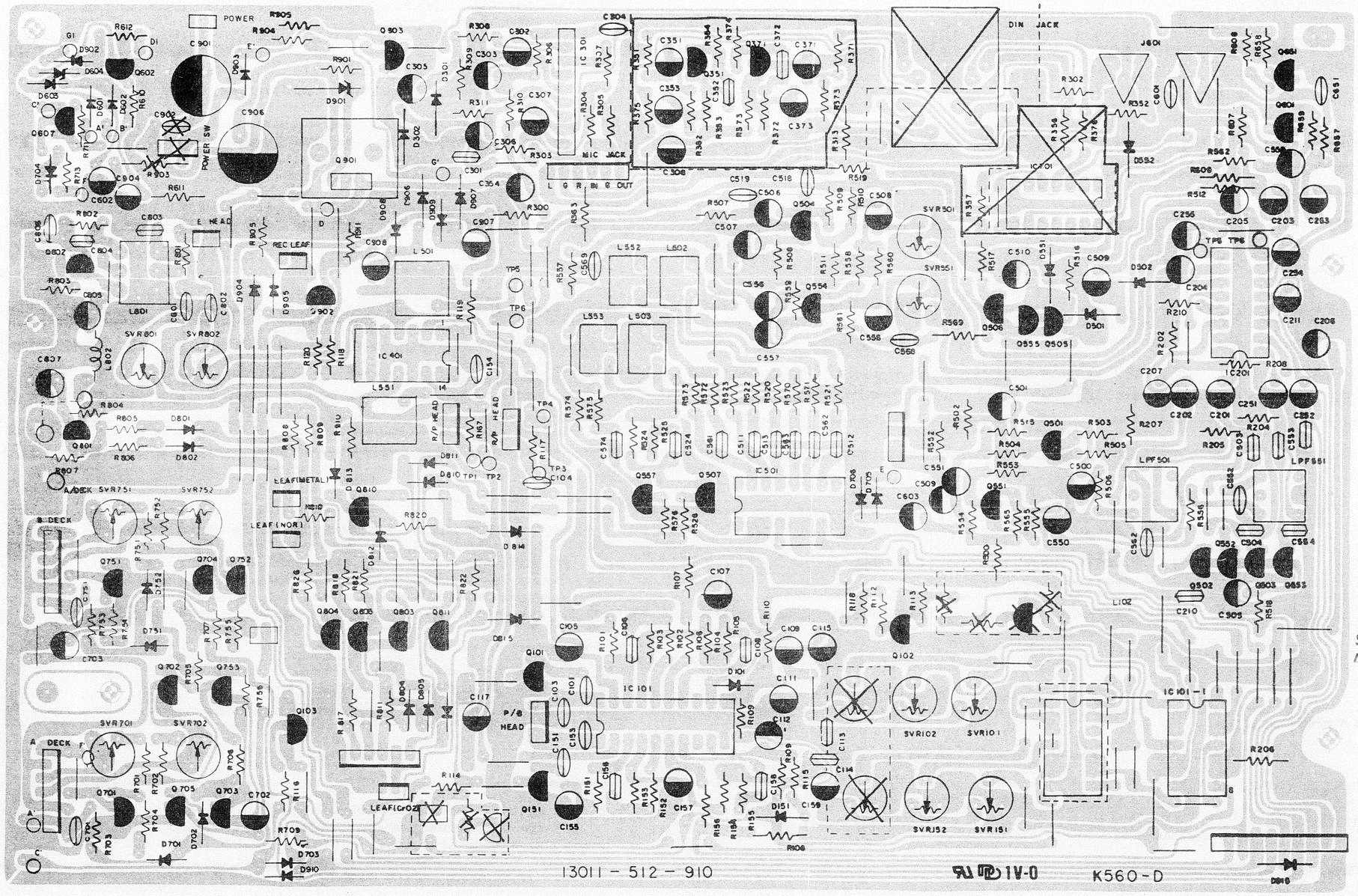
(4) BIAS FREQUENCY ADJUSTMENT

1. SET TO RECORD AND Nor/CrO_2/METAL TO "NORMAL" POSITION.
2. INPUT SIGNAL IS NOT NECESSARY FOR THIS ADJUSTMENT.
3. CONNECT THE FREQUENCY COUNTER TO TEST LEAD AND GROUND.
4. ADJUST L801 FOR A READING OF 105KHz ON THE COUNTER.

(5) BIAS CURRENT ADJUSTMENT.

1. SET TO RECORD AND DOLBY SWITCH TO "OFF" POSITION.
2. CONNECT THE VTVM AND OSCILLOSCOPE BETWEEN R117 (R-CH R167) AND GROUND.
3. SET Nor/CrO_2/METAL FOR "METAL" POSITION.
4. ADJUST SVR 601 UNTIL VTVM INDICATES 96mV OF READING.
5. REPEAT ABOVE PROCEDURE FOR THE OTHER CHANNEL.

* WHEN SELECTOR SWITCH OF TAPE CHANGED CrO_2 AND NORMAL, CHECKED VOLTAGE VARIATION CrO_2 IS ABOUT 68mV, NORMAL IS ABOUT 46mV.



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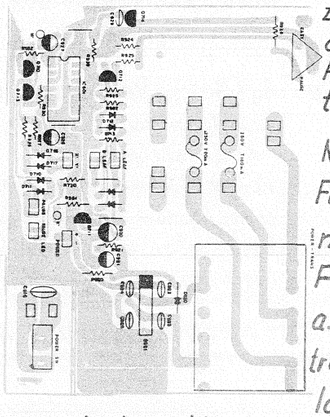
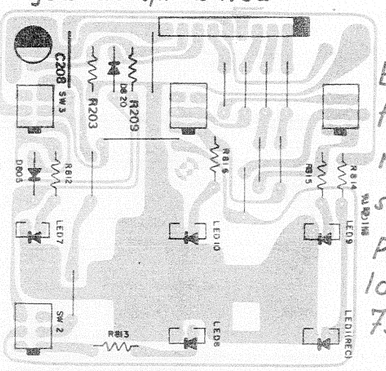


Steuerbuchse zur Fernbedienung/ Remote control jack

Netzteil u. Fernbedienungsplatine Power supply a. remote control p.c.b. Ident-Nr.

geändert, modified



Bedienteilplatine/Key switch p.c.b. Ident-Nr 756119

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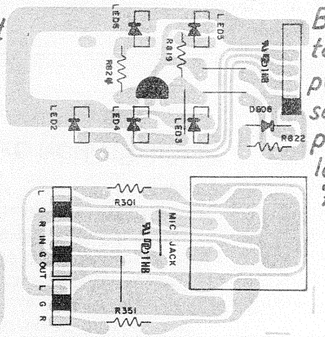
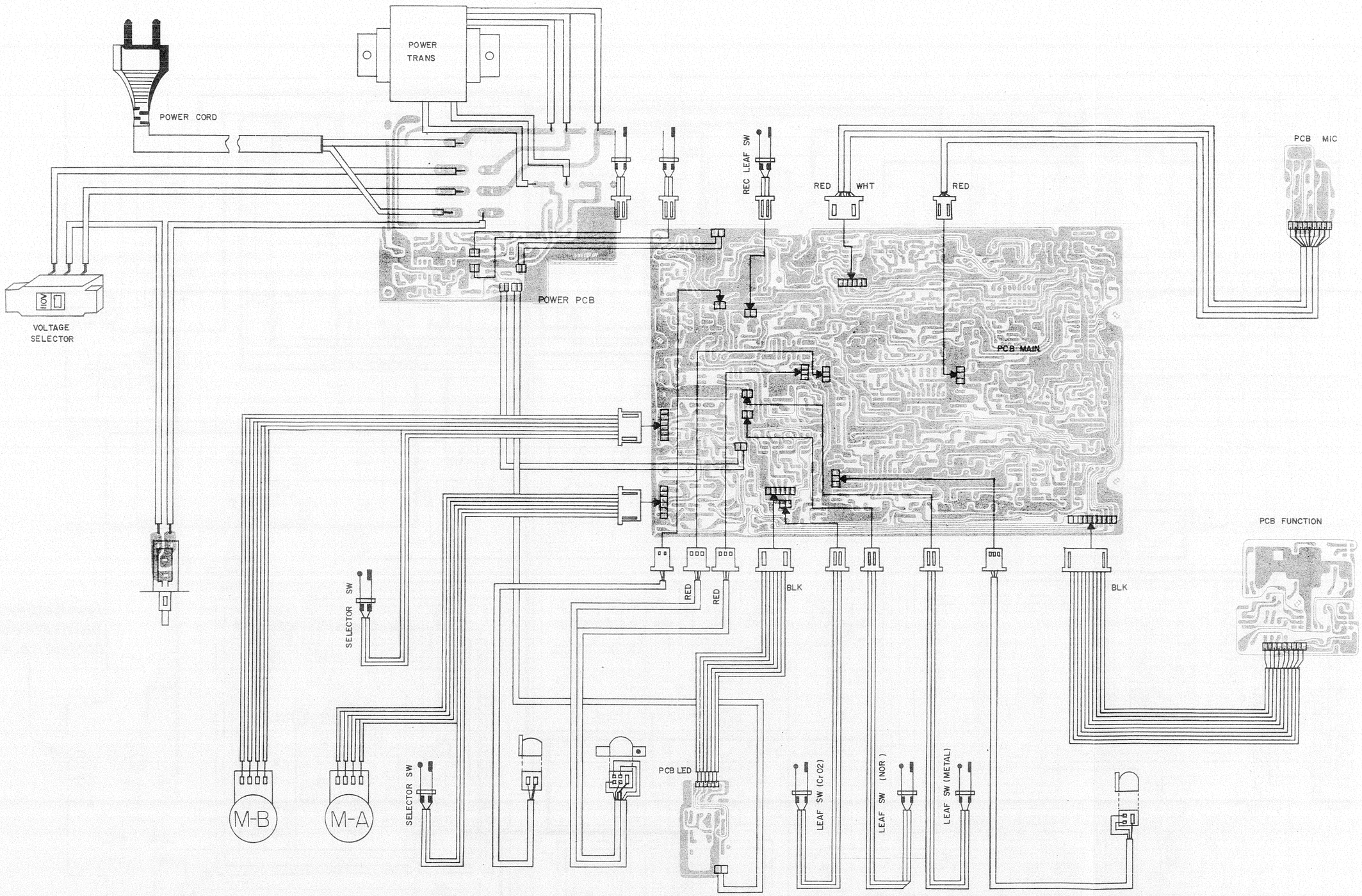


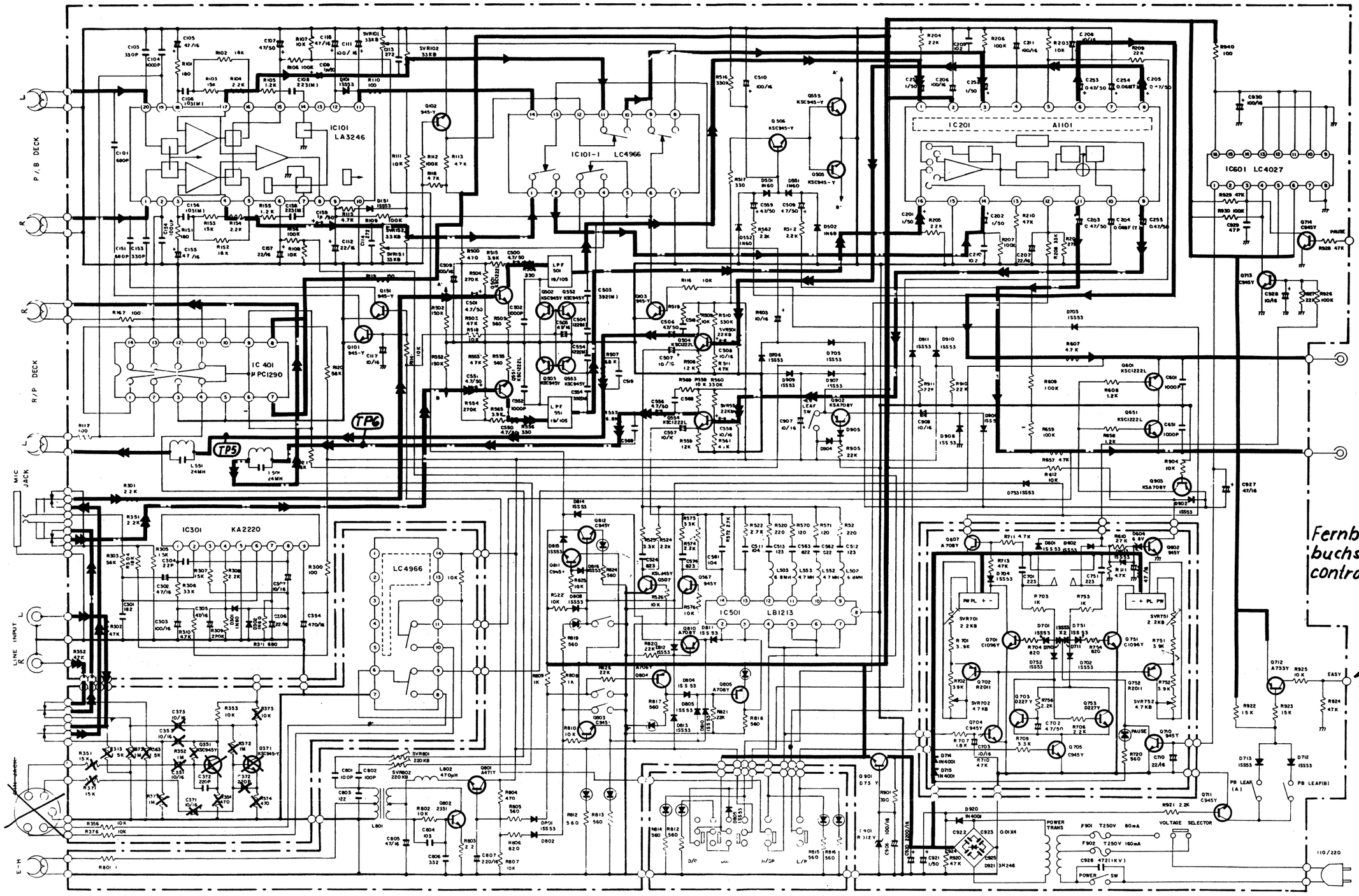
Bandsortenanzeigeplatine/Tape select-LED p.c.b. Ident-Nr. 756123

Netzschalterplatine
Power switch p.c.b.
Ident-Nr. 735451

Mikrofon buchsenplatine
Mic. socket p.c.b.
Ident-Nr. 10rder-no. 735418

9. WIRING DIAGRAM




P/B DECK
R/P DECK
MIC JACK
LINE INPUT L R
E-H
IC101 LA3246
IC101-1 LC4966
IC 401 μPC1290
IC301 KA2220
LC4966
IC501 LB1213
IC201 A1101
IC601 LC4027
TP5
TP6
Fernbedienungs-buchse/Remote control socket
PLAY SIGNAL LINE (L-CH)
PLAY SIGNAL LINE (R-CH)
RECORD SIGNAL LINE (L-CH)
RECORD SIGNAL LINE (R-CH)
B+ LINE